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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,262	02/24/2000	Hiroaki Sudo	JEL 31024	5961

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EXAMINER

JAGANNATHAN, MELANIE

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,262

Applicant(s)

SUDO, HIROAKI

Examiner

Melanie Jagannathan

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

- A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/12/2005 has been entered.
- Claims 44-49 are pending.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 44, 46, 47, 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 44, 46, 47, 48, the claimed subject matter regarding period in which communication control information and user data are transmitted at same time using plurality of subcarriers forming an OFDM signal being different from a transmission period of a known signal for use in channel estimation is not supported by

specification in such a way that one skilled in the art would know how to make and use the invention as claimed without undue experimentation.

Additionally, regarding claim 46, the claimed subject matter regarding a compensator that compensates for received OFDM signal using the known signal for channel estimation, a communication control information acquirer that extracts communication control information from one of the specific subcarriers of received OFDM signal after compensation or combines the communication control information from a plurality of specific subcarriers of received OFDM signal after compensation is not fully disclosed in specification in such a way that one skilled in the art would know how to make and use the invention as claimed without undue experimentation.

Furthermore, regarding claim 47, the claimed subject matter regarding a OFDM reception apparatus that extracts communication control information from one of the specific subcarriers of received OFDM signal after compensation or combines the communication control information from a plurality of specific subcarriers of received OFDM signal after compensation is not fully disclosed in specification in such a way that one skilled in the art would know how to make and use the invention as claimed without undue experimentation.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 44 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 44 recites the limitation "said period" in line 4. There is insufficient antecedent basis for this limitation in the claim. Examiner kindly suggests use of "said transmission period" in claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 44-49 are rejected under 35 U.S.C. 102(e) as being anticipated by Pollack et al. US 6,192,026.

Regarding claims 44, 47, 48, the claimed OFDM method and transmission apparatus, providing transmission period in which communication control information and user data are transmitted at same time, comprising OFDM signal former that allocates the same communication control information to each of specific subcarriers of OFDM signal in duplication and user data to subcarriers of OFDM signal other than specific subcarriers is disclosed by request access OFDM burst with the division of

tones of RA burst (Figure 7, element 404) into five channels. The data communication devices submit their request access bursts during a predefined, regularly reoccurring time period called the request access slot. See column 2, lines 28-45. The tones are divided into 5 mutually exclusive subsets and tones that are not assigned to a given RA channel are not energized by the device using that channel. The tones associated with each channel are made up of data tones and training tones (element 602), the training tones are spaced at constant intervals amongst data tones. The claimed transmitter that transmits the OFDM signal formed is disclosed by data communication devices (Figure 2, element 202) and access points (element 204) employing an OFDM radio modem to receive and transmit over network frequency spectrum allocated for wireless network. See column 5, lines 13-29, column 7, lines 2-65, column 8, lines 17-26, lines 65-67, column 9, and lines 1-46.

Regarding claims 46, 47, the claimed reception method and receiver that receives OFDM signal formed as claimed in claim 44 is disclosed by access point (element 204) receiving request access burst. The claimed extracting the communication control information from one of the specific subcarriers of received OFDM signal is disclosed by when data communication devices contact access point it responds with timing adjustment command in order to solve problem of overlapping messages from devices arriving at access point so as to set aside transmissions from devices that have not adjusted their timing. Additionally, guard time can be used with RA bursts to accommodate the range uncertainty. After request access burst, access point processes burst and uses set of training tones to estimate a channel response and

this is applied to set of data tones for recovery of data bits. See column 7, lines 44-59, column 8, lines 52-64, column 9, and lines 9-46.

Regarding claims 45, 49, the claimed control information allocated to first subcarrier of angular frequency 0 is disclosed by tones in RA burst with some tones having zero energy. See Figure 7 and column 9, and lines 9-14.

Response to Arguments

6. Applicant's arguments filed 9/12/2005 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie Jagannathan whose telephone number is 571-272-3163. The examiner can normally be reached on Monday-Friday from 8:00 a.m.-4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2666

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ 
12/6/2005



DAVID TON
PATENT ATTORNEY